MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: S5506
NAME: SODIUM NITRATE CRYSTALLINE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 7631-99-4
MF: NNAO3
EC NO: 231-554-3
SYNONYMS
CHILE SALTPETER * CUBIC NITRER * NITRATE DE SODIUM (FRENCH) *
NITRATINE * NITRIC ACID, SODIUM SALT * SODA NITER * SODIUM SALTPETER *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
OXIDIZING
HARMFUL
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
HARMFUL IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):
BLOOD
NERVES
KEEP AWAY FROM COMBUSTIBLE MATERIAL.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT,
CALL A PHYSICIAN.
IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND
SHOES. CALL A PHYSICIAN.
IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING
THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - -
EXTINGUISHING MEDIA
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRES AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.
MAY ACCELERATE COMBUSTION.

SECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
EVACUATE AREA.

SECTION 7. - - - - - - HANDLING AND STORAGE- - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
USE ONLY IN A CHEMICAL FUME HOOD.
SAFETY SHOWER AND EYE BATH.
WASH THOROUGHLY AFTER HANDLING.
REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.
DISCARD CONTAMINATED SHOES.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
NIOSH/MSHA-APPROVED RESPIRATOR.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
CHEMICAL SAFETY GOGGLES.
KEEP AWAY FROM COMBUSTIBLE MATERIALS, HEAT, SPARKS, AND OPEN FLAME.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - -
APPEARANCE AND ODOR
SOLID.
PHYSICAL PROPERTIES
MELTING POINT: 306 °C
SPECIFIC GRAVITY: 2.261
SWISS POISON CLASS: 4

SECTION 10. - - - - - - - - STABILITY AND REACTIVITY - - - - - - - -
STABLE.
INCOMPATIBILITIES
MIXTURES OF SODIUM NITRATE WITH POWDERED ALUMINUM AND AN OXIDANT CAN RE-
RESULT IN A LOW-TEMPERATURE EXOTHERMIC REACTION AT 705 °C IN THE PRESENCE
OF MOISTURE. INTERACTION OF MOLTEN SODIUM NITRATE AND
MAGNESIUM RESULTS IN IGNITION. MIXING SODIUM NITRATE WITH SODIUM
RESULTS IN THE FORMATION OF THE EXPLOSIVE SODIUM NITROXYLATE. A
MIXTURE OF SODIUM NITRATE, ARSENIC TRIOXIDE, IRON (II) SULFATE
SPONTANEOUSLY IGNIERTES. SODIUM NITRATE IN CONTACT WITH JUTE, WOOD AND
CELLULOSE MATERIALS WILL IGNITE THEM AT 240 °C BUT IN THE PRESENCE OF
UP TO 16% MAGNESIUM CHLORIDE IGNITION OCCURS AT 130 °C. HEATING SODIUM
NITRATE WITH SODIUM PHOSPHINATE, SODIUM THIOSULFATE, SULFAMATES,
POWDERED ANTIMONY, BORON PHOSPHIDE, POWDERED CHARCOAL, PEROXYFORMIC
ACID, BARIUM THIOCYANATE, METAL CYANIDES RESULTS IN EXPLOSIONS. WHEN
PHENOL WAS ADDED TO TRIFLUOROACETIC ACID/SODIUM NITRATE, A HAZARDOUS
RAPID EXOTHERMIC REACTION OCCURRED.
ORGANIC MATERIALS
FINELY POWDERED METALS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -
ACUTE EFFECTS
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
MAY CAUSE SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
MAY CAUSE EYE IRRITATION.
MAY BE HARMFUL IF INHALED.
MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS
TARGET ORGAN(S):
BLOOD
CENTRAL NERVOUS SYSTEM
RTECS #: WC5600000
SODIUM(I) NITRATE (1:1)

TOXICITY DATA

ORL-CHD LDLO: 22500 UG/KG
ORL-RAT LD50: 1267 MG/KG
IVN-MUS LD50: 175 MG/KG
ORL-RBT LD50: 2680 MG/KG

ORL-CHD LDLO: 22500 UG/KG                    JTCTDW 32,173,1994
ORL-RAT LD50: 1267 MG/KG                     GISAAA 46(12),66,1981
IVN-MUS LD50: 175 MG/KG                     ATXKA8 21,89,1965
ORL-RBT LD50: 2680 MG/KG                    SOVEA7 27,246,1974

TARGET ORGAN DATA

CARDIAC (PULSE RATE INCREASED WITHOUT FALL IN BP)
LUNGS, THORAX OR RESPIRATION (CYANOSIS)
BLOOD (METHEMOGLOBINEMIA-CARBOXHEMOGLOBINEMIA)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

SECTION 12. ECOLOGICAL INFORMATION
DATA NOT YET AVAILABLE.

SECTION 13. DISPOSAL CONSIDERATIONS
CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF
THIS MATERIAL.

SECTION 14. TRANSPORT INFORMATION
CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. REGULATORY INFORMATION
EUROPEAN INFORMATION
OXIDIZING
HARMFUL
R 8
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
R 22
HARMFUL IF SWALLOWED.
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 17
KEEP AWAY FROM COMBUSTIBLE MATERIAL.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
S 27
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
S 36/37/39
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FEREAC 54,7740,1989
NOHS 1974: HZD 69220; NIS 164; TNF 17916; NOS 119; TNE 165980
NOES 1983: HZD 69220; NIS 249; TNF 40765; NOS 152; TNE 557740; TFE
110040
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: SHE-CLONAL ASSAY
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCATS DATA BASE, JANUARY 2001

SECTION 16. OTHER INFORMATION
THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH,
FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING
OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR
PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.
COPYRIGHT 2001 SIGMA-ALDRICH CO.
LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY